

**P**

Name \_\_\_\_\_

Practice: For use after Lesson 1.4, Algebra 2 with Trigonome

**Algebra 2**  
**Unit #1**  
**WS #5****Properties of Real Numbers**

Name the additive inverse and the multiplicative inverse for each number.

1. 5 \_\_\_\_\_      2.  $\frac{5}{11}$  \_\_\_\_\_      3.  $-\sqrt{5}$  \_\_\_\_\_      4. 2.3 \_\_\_\_\_

Name the property of real numbers illustrated by each of the following.

5.  $x(2 \cdot y) = (x \cdot 2)y$  \_\_\_\_\_  
6.  $2 + (-9) = (-9) + 2$  \_\_\_\_\_  
7.  $6\sqrt{11}$  is a real number. \_\_\_\_\_  
8.  $a(x + y) = ax + ay$  \_\_\_\_\_

Decide if each set below is closed under addition, subtraction, multiplication, and division. If not, give a counterexample.

9. integers \_\_\_\_\_  
10. whole numbers \_\_\_\_\_

Name the property that justifies each step in the following proof.

11. For every real number  $a$ ,  $b$ , and  $c$ , if  $a = b$ , then  $a \cdot c = b \cdot c$ .

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|--|----------|
| 1. $a, b, c \in \{\text{real numbers}\}$ | 1. Given |
| 2. $a \cdot c$ is a real number          | 2. _____ |
| 3. $a \cdot c = a \cdot c$               | 3. _____ |
| 4. $a = b$                               | 4. _____ |
| 5. $a \cdot c = b \cdot c$               | 5. _____ |

**Applications****Modular Arithmetic** Clock arithmetic is a system that uses only positive integers less than or equal to 12. Find the following.

12.  $6 + 11$  \_\_\_\_\_      13.  $4 - 5$  \_\_\_\_\_

**MIXED PRACTICE**

Evaluate each expression using the value given for each variable.

14.  $5a^2 - 7a - 11$ ;  $a = -2$  \_\_\_\_\_      15.  $4|2c - 1| - 6|2 - c|$ ;  $c = 5$  \_\_\_\_\_